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EXAMINER	
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ART UNIT	PAPER NUMBER
2621	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/631,348	KONDO ET AL.	
	Examiner	Art Unit	
	Andy S. Rao	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,12,13,22,33,34,43,54,55,64 and 67* is/are pending in the application.

4a) Of the above claim(s) *See Continuation Sheet* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,12,13,22,33,34,43,54,55,64 and 67* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/31/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims withdrawn from consideration are 2-6, 9-11,14-15, 18-21, 23-27, 30-32, 35-36, 39-42, 44-48, 51-53, 56-57, 60-63, 65,-66, and 68-80.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of the Group I claims 1, 12-13, 22, 33-34, 43, 55, 64 and 67 in the reply filed on 5/14/08 is acknowledged. The traversal is based upon three distinct arguments. However, after a careful consideration of the arguments presented the Examiner must respectfully disagree and maintains the applicability and propriety of the requirement for the reasons that follow.

After summarizing the pending restriction requirement (Response With Traverse of 5/14/08: page 2, lines 1-19), and noting that this second restriction requirement is not Applicant's desired and allegedly more "logical" restriction requirement (Response With Traverse of 5/14/08: page 2, lines 20-26), the Applicants argue that several sets of claims appear in multiple groups: claim 44 is in groups II and IV; claims 45-46 are in both group III and group IV; and claim 61 is in group II and group VII (Response With Traverse of 5/14/08: page 3, lines 4-9). The Examiner would respectfully disagree. The claims appearing in multiple groups are correctly ascribed thereto because the associated features of the claims are considered common to the pairs of groups (i.e. those features are prevalently found in both fields of endeavor as delineated by the groups). Accordingly, when the Applicants designate a group, those claims listed therein will be analyzed in conjunction with how those claimed features would be used in the field of endeavor. Furthermore, it is duly noted that even if this argument were tenable, the Examiner notes that the group as elected by the Applicant doesn't appear to have claims that appear in multiple groups. So unless the Applicant had actually elected with traverse claims to found in multiple groups and then couldn't arrive at such an election because further clarification was needed, then proper

justification could be found. That doesn't appear to be the case, here, as the Applicants have designated claims from group I.

Secondly, the Applicants argue that since claims 54 and 60 inadvertently omitted from restriction requirement, it would be difficult for the Applicants to comply with the requirement since it is not known if the omitted claims would be analyzed or withdrawn based on the Applicants response (Response With Traverse of 5/14/08: page 3, lines 10-13). The Examiner respectfully disagrees. Since claim 54 recites the features of already grouped claim 12 (i.e. "wherein the camera estimation information detection means generates the camera motion estimation information which is constructed by information of plural kinds of motion...), and since claim 60 recites the features of 9 (i.e. "…wherein the motion vector detection section detects the motion vector, with respect to a plurality of preset representative points of the inputted image signal), the former would be put in the elected group I claims, while the latter would be put in the non-elected group V claims.

Additionally, the Applicants argue that the restriction requirement cause independent claims to be re-presented in subsequent divisional applications, and thus place a signification burden on the Office (Response With Traverse of 5/14/08: page 3, lines 14-20). The Examiner appreciates the Applicants concern with the burden placed upon the Offices resources by having to execute duplicate searches. However, the Examiner would note that if anything, were independent claims re-searched in a divisional application, then that more recent search would clearly provide an already updated search for the same independent claims in the corresponding parent application, therefore, allowing a quicker search process the prosecution of the parent

application when subsequent action by the Office is undertaken. So, it would actually reduce the search burden upon the Office by providing a certain synergy between the conducted searches.

Lastly, the with regards to the Applicants remarks concerning their proposed more logical restriction requirement groupings (Response With Traverse of 5/14/08: page 3, lines 21-23; page 4, lines 1-4), the Examiner appreciates the Applicants efforts trying to establish groupings of the claims so that prosecution as to their merits could commence. However, the Examiner's groupings as delineated above are more art specific with regards to the image processing that is used in conjunction with vibration sensor processing. Accordingly, the elected claims of Group I claims 1, 12-13, 22, 33-34, 43, 54-55 64 and 67 will be examined.

The requirement is still deemed proper and is therefore made FINAL.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 43, 54-55, and 67 are rejected under 35 U.S.C. 101 because they are directed towards nonstatutory subject matter.

A). The Examiner notes that "a program recording medium on which is recorded…" (claim 43) and "a program recording medium on which is recorded…" (claim 67) don't specify how the instructions are (a) associated with the medium, or (b) the nature of instructions. Data structures not claimed as embodied (or encoded with or embedded with) in a computer readable medium are descriptive material per se, and are not statutory, *Warmerdam, 33 F.3d at 1361, 31, USPQ2d at 1760).* Similarly, computer programs claimed as computer listings, instructions, or codes are just the descriptions, expressions, of the program are not "physical things". They have neither computer components nor statutory processes, as they are not "acts" being performed. In contrast, a claimed "…computer readable medium encoded with a computer program…" is a computer element which defines structural and function interrelationships between the computer program and the rest of the computer, and is statutory, *Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 103, Interim Guidelines, Annex IV (Section a).*

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 22, 33-34, 43, 54-55, 64, and 67 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A). In t claims 22, 33-34, 43, 54-55, 64, and 67, the limitations of "…wherein the desired image signal is a signal obtained for learning processing that is performed automatically by a

learning section of said apparatus…" lack proper antecedent basis as these are all method claims that make an incorrect reference to an apparatus and a particular element of an apparatus.

Correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1, 12-13, 22, 33-34, 43, 54-55, 64 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martens et al., (hereinafter referred to as "Martens") in view of Vock et al., (hereinafter referred to as "Vock").

Martens discloses apparatus (Martens: figure 5) comprising: memory means for storing relationship information generated based on camera motion estimation information for expressing motion of a video camera (Martens: column 21, lines 25-30), which is detected by a desired image signal picked up by the video camera (Martens: column 4, lines 55-60), and camera motion information for expressing physical motion of the video camera, which was obtained by a sensor for detecting physical motion at the same time when the desired image signal was picked up by the video camera (Martens: column 39, lines 20-35); camera motion estimation information detection means for detecting camera motion estimation information with respect to an inputted image signal, from the inputted image signal (Martens: column 5, lines 30-

55) ; and camera motion prediction information generation means for generating camera motion prediction information with respect to the inputted image signal (Martens: column 9, lines 35-65), based on the camera motion estimation information of the inputted image signal detected by the camera motion estimation information detection means and the relationship information (Martens: column 11, lines 40-60); wherein the desired image signal is a signal obtained for processing that is performed automatically by of said apparatus (Martens: column 14, lines 20-50), as in claim 1. However, Martens fails to disclose the use of learning as executed by learning processors (i.e. neural network processors) as in the claims. Vock discloses an apparatus for establishing relationship information between vibration sensor readings (Vock: column 50, lines 35-45) an associated camera image information (Vock: column 19, lines 50-65) using neural networks (Vock: column 50, lines 1-15) in order to accurately synthesize kinetic and visual data to provide a simulation record of said data (Vock: column 5, lines 30-45). Accordingly, given this teaching it would have been obvious for one of ordinary skill in the art at the time of the invention take the teaching of Vock's use of neural networks into the Martens apparatus in order to accurately synthesize the kinetic data (Martens: column 38, lines 55-65) and visual data (Martens: column 4, lines 50-60) for a simulation record (Martens: column 39, lines 40-50). The Martens apparatus, now incorporating the Vock use of neural networks for executing the learning processing, has all of the features of claim 1.

Regarding claim 12, the Martens apparatus, now incorporating the Vock use of neural networks for executing the learning processing, has wherein the camera motion estimation information detection means generates the camera motion estimation information which is

constructed by plural kinds of components information of plural kinds of motions (Vock: column 34, lines 20-30, 38-40, and 55-65), as in the claim.

Regarding claim 13, the Martens apparatus, now incorporating the Vock use of neural networks for executing the learning processing, has wherein the camera motion prediction information generation means generates the camera motion prediction information corresponding to the inputted image signal, by a linear combination of the camera motion estimation information and the relationship information (Martens: column 10, lines 25-65), as in the claim.

Martens discloses information processing method (Martens: column 40, lines 40-45) comprising the steps of: a step of generating relationship information generated based on camera motion estimation information for expressing motion of a video camera (Martens: column 21, lines 25-30), which is detected by a desired image signal picked up by the video camera (Martens: column 4, liens 55-60), and camera motion information for expressing physical motion of the video camera, which was obtained by a sensor for detecting physical motion at the same time when the desired image signal was picked up by the video camera (Martens: column 39, lines 20-35); a step of detecting camera motion estimation information with respect to an inputted image signal, from the inputted image signal (Martens: column 9, lines 35-65); and a step of generating camera motion prediction information with respect to the inputted image signal, based on the camera motion estimation information of the inputted image detected and the relationship information (Martens: column 11, lines 40-60); wherein the desired image signal is a signal obtained for processing that is performed automatically by a section of said apparatus (Martens: column 14, lines 20-50), as in claim 22. However, Martens fails to disclose the use of learning or learning processing (i.e. neural network processing) as in the claims. Vock discloses

a method for establishing relationship information between vibration sensor readings (Vock: column 50, lines 35-45) an associated camera image information (Vock: column 19, lines 50-65) using neural networks (Vock: column 50, lines 1-15) in order to accurately synthesize kinetic and visual data to provide a simulation record of said data (Vock: column 5, lines 30-45). Accordingly, given this teaching it would have been obvious for one of ordinary skill in the art at the time of the invention take the teaching of Vock's use of neural networks into the Martens method in order to accurately synthesize the kinetic data (Martens: column 38, lines 55-65) and visual data (Martens: column 4, lines 50-60) for a simulation record (Martens: column 39, lines 40-50). The Martens method, now incorporating the Vock use of neural networks for executing the learning processing, has all of the features of claim 22.

Regarding claim 33, the Martens method, now incorporating the Vock use of neural networks for executing the learning processing, has wherein in the step of detecting the camera motion estimation information, the camera motion estimation information which is constructed by plural kinds of component information of plural kinds of motions (Vock: column 34, lines 20-30, 38-40, and 55-65), as in the claim.

Regarding claim 34, the Martens method, now incorporating the Vock use of neural networks for executing the learning processing, has wherein in the step of generating the camera motion prediction information, the camera motion prediction information corresponding to the inputted image signal is generated by a linear combination of the camera motion estimation information and the relationship information (Martens: column 10, lines 25-65), as in the claim.

Martens discloses a program recording medium which records a program for letting a computer execute information processing (Martens: column 47, lines 5-12; column 48, lines 1-

10) , the program (Martens: column 40, lines 40-45) comprising the steps of: a step of generating relationship information generated based on camera motion estimation information for expressing motion of a video camera (Martens: column 21, lines 25-30), which is detected by a desired image signal picked up by the video camera (Martens: column 4, liens 55-60), and camera motion information for expressing physical motion of the video camera, which was obtained by a sensor for detecting physical motion at the same time when the desired image signal was picked up by the video camera (Martens: column 39, lines 20-35); a step of detecting camera motion estimation information with respect to an inputted image signal, from the inputted image signal (Martens: column 9, lines 35-65); and a step of generating camera motion prediction information with respect to the inputted image signal, based on the camera motion estimation information of the inputted image detected and the relationship information (Martens: column 11, lines 40-60); wherein the desired image signal is a signal obtained for processing that is performed automatically by a section of said apparatus (Martens: column 14, lines 20-50), as in claim 43. However, Martens fails to disclose the use of learning or learning processing (i.e. neural network processing), as in the claims. Vock discloses a method for establishing relationship information between vibration sensor readings (Vock: column 50, lines 35-45) an associated camera image information (Vock: column 19, lines 50-65) using neural networks (Vock: column 50, lines 1-15) in order to accurately synthesize kinetic and visual data to provide a simulation record of said data (Vock: column 5, lines 30-45). Accordingly, given this teaching it would have been obvious for one of ordinary skill in the art at the time of the invention take the teaching of Vock's use of neural networks into the Martens method as implemented on a program recording medium in order to accurately synthesize the kinetic data (Martens: column

38, lines 55-65) and visual data (Martens: column 4, lines 50-60) for a simulation record (Martens: column 39, lines 40-50). The Martens method as implemented on a program recording medium, now incorporating the Vock use of neural networks for executing the learning processing, has all of the features of claim 43.

Regarding claim 54, the Martens method as implemented on a program recording medium, now incorporating the Vock use of neural networks for executing the learning processing, has wherein in the step of detecting the camera motion estimation information, the camera motion estimation information which is constructed by plural kinds of components information of plural kinds of motions (Vock: column 34, lines 20-30, 38-40, and 55-65), as in the claim.

Regarding claim 55, the Martens method as implemented on a program recording medium, now incorporating the Vock use of neural networks for executing the learning processing, has wherein in the step of generating the camera motion prediction information, the camera motion prediction information corresponding to the inputted image signal is generated by a linear combination of the camera motion estimation information and the relationship information (Martens: column 10, lines 25-65), as in the claim.

Martens discloses information processing method (Martens: column 40, lines 40-45) comprising the steps of: a step of detecting camera motion information with respect to an inputted image signal, from the inputted image signal (Martens: column 9, lines 35-65);
a step of detecting camera motion prediction information with respect to the inputted image signal (Martens: column 9, lines 35-65), based on the detected camera motion and relationship based on camera motion estimation information for expressing motion of a video camera

(Martens: column 21, lines 25-30), and camera motion information for expressing physical motion of the video camera (Martens: column 11, lines 40-60); obtained by a sensor for detecting physical motion at the same time that the desired image signal was picked up (Martens: column 39, lines 35-40); wherein the desired image signal is a signal obtained for processing that is performed automatically (Martens: column 14, lines 20-50), as in claim 64. However, Martens fails to disclose the use of learning or learning processing (i.e. neural network processing) as in the claims. Vock discloses a method for establishing relationship information between vibration sensor readings (Vock: column 50, lines 35-45) an associated camera image information (Vock: column 19, lines 50-65) using neural networks (Vock: column 50, lines 1-15) in order to accurately synthesize kinetic and visual data to provide a simulation record of said data (Vock: column 5, lines 30-45). Accordingly, given this teaching it would have been obvious for one of ordinary skill in the art at the time of the invention take the teaching of Vock's use of neural networks into the Martens method in order to accurately synthesize the kinetic data (Martens: column 38, lines 55-65) and visual data (Martens: column 4, lines 50-60) for a simulation record (Martens: column 39, lines 40-50). The Martens method, now incorporating the Vock use of neural networks for executing the learning processing, has all of the features of claim 64.

Martens discloses a program recording medium which records a program for letting a computer execute information processing (Martens: column 47, lines 5-12; column 48, lines 1-10) , the program (Martens: column 40, lines 40-45) comprising the steps of: detecting camera motion information with respect to an inputted image signal, from the inputted image signal (Martens: column 9, lines 35-65); detecting camera motion prediction information with respect to the inputted image signal (Martens: column 9, lines 35-65), based on the detected camera

motion and relationship based on camera motion estimation information for expressing motion of a video camera (Martens: column 21, lines 25-30), and camera motion information for expressing physical motion of the video camera (Martens: column 11, lines 40-60); obtained by a sensor for detecting physical motion at the same time that the desired image signal was picked up (Martens: column 39, lines 35-40); wherein the desired image signal is a signal obtained for processing that is performed automatically (Martens: column 14, lines 20-50), as in claim 67. However, Martens fails to disclose the use of learning or learning processing (i.e. neural network processing), as in the claims. Vock discloses a method for establishing relationship information between vibration sensor readings (Vock: column 50, lines 35-45) an associated camera image information (Vock: column 19, lines 50-65) using neural networks (Vock: column 50, lines 1-15) in order to accurately synthesize kinetic and visual data to provide a simulation record of said data (Vock: column 5, lines 30-45). Accordingly, given this teaching it would have been obvious for one of ordinary skill in the art at the time of the invention take the teaching of Vock's use of neural networks into the Martens method as implemented on a program recording medium in order to accurately synthesize the kinetic data (Martens: column 38, lines 55-65) and visual data (Martens: column 4, lines 50-60) for a simulation record (Martens: column 39, lines 40-50). The Martens method as implemented on a program recording medium, now incorporating the Vock use of neural networks for executing the learning processing, has all of the features of claim 67.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Everett discloses an intelligent security assessment system. Elder discloses an attentive panoramic visual sensor.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy S. Rao whose telephone number is (571)-272-7337. The examiner can normally be reached on Monday-Friday 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571)-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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